

## **ENGINEERING STANDARDS UPDATE**

Standards are serious business, but this newsletter isn't.

### **Topics this month:**

- **Some Electrical Tips**
- **LANL Standards Issued in July**
- **Engineering Processes**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

The Standards Homepage: <http://engstandards.lanl.gov/>

The details are not the details. They make the design.  
-- Charles Eames

### **SOME ELECTRICAL TIPS**

#### **Listed, labeled, and defined in the National Electrical Code**

What exactly does "listed and labeled as defined in NFPA 70" mean? [Read](#) More

#### **Some Ways to Prevent Electrical Counterfeiting**

Once the submittals are approved and the equipment is on site, it is assumed that the equipment is as specified and identical to the submittal. But what happens if it isn't? [Read More...](#)

### **LANL STANDARDS ISSUED IN JULY**

#### **Master Specifications [STD-342-200](#)**

|                         |  |
|-------------------------|--|
| 31 2000 R8 Earth Moving | Clarification in part 2.1.F.1 on gravel size. Thanks to Kyle Deines and Mell Smithour. |
|-------------------------|--|

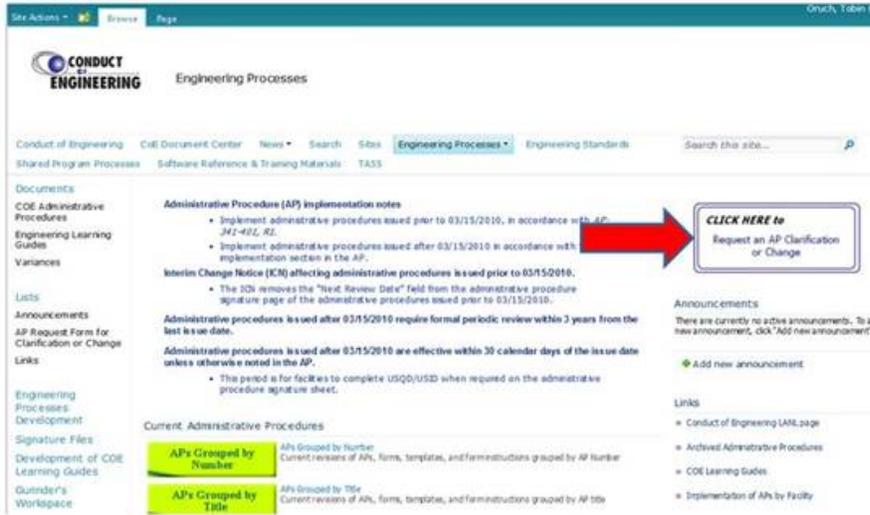
### **ENGINEERING PROCESSES**

Gurinder retired, but not before seeing two more processes documents issued, including a new guide on system health monitoring (see below). He also finished about five other AP revisions, three just posted and two more that are in approval and issuing soon.

Going forward, if users need help with or want to make suggestions on the APs, please use the button on the AP [SharePoint page](#) shown below. It leads to a form that logs your issue; questions will be answered by an ES-DO manager.

## AP Support or Feedback Process

Please use even when Gurinder is replaced



The screenshot shows the 'Engineering Processes' page on the CONDUCT ENGINEERING website. A red arrow points from the 'Administrative Procedure (AP) implementation notes' section to a button that says 'CLICK HERE to Request an AP Clarification or Change'. The notes include information about AP implementation dates (03/15/2010) and interim change notices (ICN) affecting procedures issued prior to 03/15/2010.

### New/Revised:

#### [Facility Engineering Processes Manual](#) revision

P341 –Policy Document

#### [A Guide to System Health Monitoring and Reporting](#) NEW!!!

Engineering Learning Guide

|               |  |                           |
|---------------|--|---------------------------|
| AP-341-101-R3 | <b>Designating Vital Safety Systems and Cognizant System Engineers</b><br>Course 44251         | <b>Issued:</b><br>7/31/14 |
| AP-341-403-R1 | <b>Master Document List</b><br>Course 44224  |                           |
| AP-341-607-R1 | <b>Determining Critical Characteristics for Design of Safety Related Items</b><br>Course 56853 |                           |

**P341** Summary of Changes: Performed three year review in accordance with [PD311](#), *Requirements System and Hierarchy*. In Section 2.1, changed Responsible Manager from Engineering Services Division Leader to Conduct of Engineering Office Director and changed Responsible Office from Engineering Services Division Office to Conduct of Engineering Office. In Section 3.1.1, Management Level definitions were consolidated and moved into AP-341-502, *Management Level Determination and Identification of Quality Assurance and Maintenance Requirement*. In Section 3.2, clarified and expanded description of the configuration management program to be consistent with DOE O 420.1C, *Facility Safety* and Conduct of Engineering administrative procedures. In Section 3.5, clarified and expanded description of the

cognizant system engineer program to be consistent with DOE O 420.1C, *Facility Safety*, and Conduct of Engineering administrative procedures. Editorial changes throughout the procedure to achieve consistency between this manual and the Conduct of Engineering administrative procedures. Also, changed QC-1 to NAP-24 throughout the document. Admin updates.

## DOE TECHNICAL STANDARDS ACTIONS

DOE [Tech Stds](#) activity this past month: none

## WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

Giraffe overpass death in South Africa could lead to criminal charges

<https://twitter.com/ExploringBird/timelines/495261724044300288>



**What does this have to do with engineering? Glad you asked.**

**Engineering Question** (thanks to Ed Henderson)

Conditions:

A backhoe weighing 22 tons is on top of a lowboy trailer and heading east on the Trans-Canada Highway in Alberta . The extended shovel arm is made of hardened refined steel and the approaching overpass is made of commercial-grade concrete, reinforced with 1 inch steel rebar spaced at 6 inch intervals in a criss-cross pattern layered at 1 foot vertical spacing.

Solve:

When the shovel arm hits the overpass, how fast do you have to be going to slice the bridge in half? (Assume no effect for headwind and no braking by the driver)





I couldn't solve it either...but who cares; the pictures are great!

P.S. The driver was on his cell phone...

### **LAST MONTH'S UPDATE TOPICS**

Miss an issue? The archive is at "[Monthly Update](#)" on the Standards [homepage](#). Last month's topics:

- **Engineering Processes**
- **Standards Hero**
- **CGD Training**
- **Swagelok Seminars**
- **Engineers Behaving Badly**
- **Engineers Behaving Well**
- **LANL Standards Issued in June**
- **DOE Technical Standards Actions**
- **When Good Conduct of Engineering Isn't Followed**

To request a change to this newsletter's distribution, please contact me.  
The views expressed in this email are not necessarily those of my employer.

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